

 **COPY**

CITY OF ANN ARBOR
INVITATION TO BID



**Water Treatment Chemical
Sodium Hydroxide (NaOH)**

ITB No. 4718

Due Date: May 4, 2022 at 10:00 AM (Local Time)

Water Treatment Plant

Issued By:

City of Ann Arbor
Procurement Unit
301 E. Huron Street
Ann Arbor, MI 48104

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INSTRUCTIONS TO BIDDERS

General

The City of Ann Arbor's Procurement Office is soliciting bids for the purchase of the sodium hydroxide for use by the City's Water Treatment system based on the specifications provided herein. Any Bid which does not conform fully to these instructions may be rejected.

Preparation of Bids

Bids should be prepared providing a straight-forward, concise description of the Bidder's ability to meet the requirements of the ITB. Bids shall be written in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed and dated in ink by the person signing the Bid.

Bids must be submitted on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid. No alternative bid will be considered unless alternative bids are specifically requested. If alternatives are requested, any deviation from the specification must be fully described, in detail on a clearly marked "Alternate" section of Bid form.

Each person signing the Bid certifies that he/she is the person in the Bidder's firm/organization responsible for the decision as to the fees being offered in the Bid and has not and will not participated in any action contrary to the terms of this provision.

Questions or Clarifications / Designated City Contacts

All questions regarding this ITB shall be submitted via email. Emailed questions and inquires will be accepted from any and all prospective Bidders in accordance with the terms and conditions of the ITB.

All questions shall be due on or before **April 25, 2022 @ 5:00 p.m.** and should be addressed as follows:

Specification/Scope of Work questions emailed to Becky Lahr, Drinking Water Quality Manager, Water Treatment Services Unit at rlahr@a2gov.org.

Bid Process and Compliance questions emailed to Colin Spencer, CSpencer@a2gov.org

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of Colin Spencer at cspencer@a2gov.org after discovery as possible. Further, the contractor and/or service provider shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

Site Inspection

On or prior to April 25, 2022, a bidder may inspect the City's site and equipment. Inspections are highly encouraged and are by appointment only during business hours (8:00 a.m. to 3:00 p.m). Appointments can be scheduled by email to Becky Lahr, Drinking Water Quality Manager, Water Treatment Services Unit at rlahr@a2gov.org. No appointments will be scheduled after the deadline.

Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) www.mitn.info and/or City of Ann Arbor web site www.A2gov.org for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received, but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written addenda.

Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **May 4, 2022 at 10:00 A.M. (Local time)**. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copy in a sealed envelope clearly marked: ITB No. 4718 – Water Treatment Chemical - Sodium Hydroxide.

Bids must be addressed and delivered to:

City of Ann Arbor
Procurement Unit,
c/o Customer Services, 1st Floor
301 East Huron Street
Ann Arbor, MI 48104

All Bids received on or before the Due Date will be publicly opened at the due date at City Hall (Ann Street (north) vestibule of City Hall or in the Larcom 1st Floor South ConfRoom - Guest Services) and recorded immediately. No immediate decisions are rendered.

The following forms provided within this ITB Document should be included in submitted bids.

- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

Hand delivered bids may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule of City Hall which is accessible to the public at all hours. Normal business hours are 9:00 a.m. to 3:00 p.m. Monday through Friday, excluding Holidays. The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

Additional time for submission of bids past the stated due date and time will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines in its sole discretion that circumstances warrant it.

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Award

The City intends to award a Contract/Purchase Order to the lowest responsible Bidder(s) providing the best value to the City. The City may, at its sole discretion, award line-by-line in the best interest of value to the City.

Responsible bidder means a bid submitted, which conforms in all aspects of the requirements set forth in the invitation to bid. All aspects could include references, past experience, past performance, and qualifications.

Official Documents

The City of Ann Arbor officially distributes bid documents from the Procurement Unit or through the Michigan Intergovernmental Trade Network (MITN). Copies of the bid documents obtained from any other source are not Official copies. Addenda and other bid information will only be posted to these official distribution sites. If you obtained City of Ann Arbor Bid documents from other sources, it is recommended that you register on www.MITN.info and obtain an official Bid.

Taxes

Municipalities are exempt from Michigan State Sales and Federal Excise taxes. Do not include such taxes in the bid figure(s). The City will furnish the successful bidder with tax exemption certificates when requested.

Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of one-hundred and twenty (120) days.

Non-Discrimination Requirements

All contractors proposing to do business with the City shall satisfy the non-discrimination administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

Conflict of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may award on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

Disclosures

After bids are opened, all information in a submitter's bid is subjected to disclosure under the provisions of Michigan Public Act No. 442 of 1976, as amended (MCL 15.231 et seq.) known as the "Freedom of Information Act." The Freedom of Information Act also provides for the complete disclosure of contracts and attachments thereto except where specifically exempted.

Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by the Offeror to initiate contact with anyone other than the Designated City Contacts provided herein that the prospective Offeror believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.

Cost Liability

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the Bidder prior to the execution of a contract with the City. By submitting a bid, a bidder agrees to bear all costs incurred or related to the preparation, submission and selection process for the bid.

Reservation of Rights

The City of Ann Arbor reserves the right to accept any bid or alternative bid proposed in whole or in part, to reject any or all bids or alternatives bids in whole or in part and to waive irregularity and/or informalities in any bid and to make the award in any manner deemed in the best interest of the City.

Environmental Commitment

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote, and encourage the City's commitment to the environment.

The City encourages potential vendors to bring forward emerging and progressive products and services that are best suited to the City's environmental principles.

Chemical Delivery or Supply Insurance Requirements

Insurance: Vendor shall procure and maintain the following insurance during the term of this contract and its performance:

- (1) Worker's compensation insurance as required by law; and automobile (all vehicles) insurance with \$1,000,000 limit;**
- (2) Commercial general liability insurance with products/completed-operations coverage, written on a per occurrence basis with \$1,000,000 in coverage per occurrence and **\$2,000,000** per job/location aggregate;
- (3) Umbrella liability insurance over all other required insurance, written on a per occurrence basis with \$5,000,000 limit;
- (4) Contractor pollution liability insurance, written on a per occurrence basis, with \$5,000,000 limit including Products pollution liability and Transportation pollution liability.**

For all required insurance, the City shall be named an additional insured without added exclusions or limiting endorsements that diminish the City's protections. Further, all insurers shall be authorized to do business in Michigan, and shall carry and maintain a minimum rating of "A-" from A.M. Best and Co., with a minimum financial size category of "V." All required insurance shall be primary to any insurance the City has (including self-insured retention), and any insurance or

retention the City has shall not be required to contribute. For itself and all of its insurers, vendor waives its right to recover against the City for liabilities for which the City has insurance. Vendor shall furnish to the City endorsements from its insurers unconditionally entitling the City to 30-days' notice of cancellation or non-renewal, except that in the case of cancellation or non-renewal due to non-payment of premiums, 10-days' notice is sufficient. Vendor shall furnish the City proof of its compliance with these insurance requirements upon demand, through City-approved means (currently MyCOI). Compliance with this section is a condition of City's payment to vendor. Vendor should add registration@mycoitracking.com to its safe-senders list.

INVITATION TO BID

City of Ann Arbor
Guy C. Larcom Municipal Building
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements, Vendor Conflict of Interest Form, Instructions to Bidders, Bid Forms, Purchase Order Terms and Conditions, General Conditions, Detailed Specifications, and all Addenda, and understands them. The Bidder declares that it conducted a full investigation of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

In accordance with these bid documents, and Addenda numbered 1, the undersigned, as Bidder, proposes to deliver to the City all product/services herein described for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

Bidder further agrees that the cited provisions of Chapter 14 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS 29 DAY OF April, 2022

JCI Jones Chemicals, Inc.

Bidder's Name

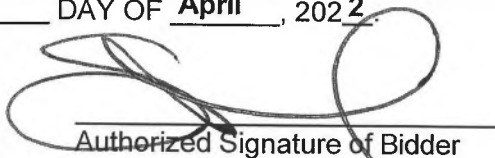
1765 Ringling Blvd

Sarasota, FL 34236

Official Address

(941) 330-1537

Telephone Number


Authorized Signature of Bidder

Summer Mello

(Print Name of Signer Above)

summer@jcichem.com

Email Address for Award Notice

LEGAL STATUS OF BIDDER

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

* A corporation organized and doing business under the laws of the State of New York, for whom Summer Mello, bearing the office title of Nat'l Sales Admin, whose signature is affixed to this Bid, is authorized to execute contracts.

NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority

~~• A limited liability company doing business under the laws of the State of _____, whom _____ bearing the title of _____ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.~~

* A partnership, organized under the laws of the state of _____ and filed in the county of _____, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

* An individual, whose signature with address, is affixed to this Bid: _____ (initial here)

Authorized Official

 _____ Date April 29, 2022

(Print) Name Summer Mello Title Nat'l Sales Admin

Company: JCI Jones Chemicals, Inc.

Address: 1765 Ringling Blvd, Sarasota FL 34236

Contact Phone () (941) 330-1537 Fax () (941) 330-9657

Email summer@jcichem.com

SECTION 2
CITY OF ANN ARBOR
STANDARD SPECIFICATIONS
FOR
SODIUM HYDROXIDE

This specification pertains to sodium hydroxide (NaOH) for use in the treatment of municipal water supplies. Chemicals supplied under this specification must meet or exceed the requirements of ANSI/AWWA B501-19 and NSF/ANSI Standard 60.

PART 1: General Information

Part 1.1 Definitions

The following definitions shall apply in this specification:

Manufacturer: Any party that produces Sodium hydroxide (caustic soda) as covered by this specification.

Purchaser: Any party that enters into a contract, either written or verbal, to purchase sodium hydroxide in accordance with the provisions of this specification.

Vendor: Any party that enters into a contract, either written or verbal, to supply sodium hydroxide for purchase in accordance with this specification.

Part 1.2 Affidavit of Compliance

The purchaser requires an affidavit from the manufacturer or vendor that the sodium hydroxide furnished under the purchaser's orders conforms to NSF/ANSI Standard 60 and meets or exceeds the specifications of this standard and ANSI/AWWA B501-19.

Part 1.3 Rejection

Notice of Nonconformance. If the sodium hydroxide does not meet the requirements of this standard, a notice of nonconformance shall be provided by the purchaser to the vendor within 10 working days of receipt of the shipment at its point of destination. The results of the purchaser's test shall prevail unless the vendor notifies the purchaser within five working days of receipt of the notice of nonconformance that a retest is desired. On receipt of the request for a retest, the purchaser shall forward to the vendor one of the sealed samples taken in accordance to section 4.1 of this standard. In the event that the retest results do not agree with the test results of the purchaser, the other sealed sample shall be forwarded to a referee laboratory agreed upon by both parties for analysis. The results of the referee laboratory's analysis shall be considered final. If the shipment is found to be in compliance with this standard, then the cost of the referee

laboratory shall be assumed by the purchaser. If the shipment is found not to meet the specifications of this standard, the cost of the referee laboratory shall be assumed by the vendor.

If the material delivered is found to not meet the requirements of this standard, the responsibility of removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

PART 2: Specifications

Part 2.1 Description

50% Sodium hydroxide solution is normally a clear and colorless liquid but may sometimes be slightly colored and turbid. It is a caustic liquid and is neither combustible nor explosive. However, caustic soda can react violently or explosively with many organic chemicals. This solution begins to crystallize at 12°C. Considerable heat is generated when water is added to caustic soda which may result in boiling and splattering of hot caustic solution.

Part 2.2 Physical Requirements

Sodium hydroxide is a compound that is commonly produced in the electrolytic manufacture of chlorine. In the anhydrous form, it is white to slightly off white, opaque or translucent solid that rapidly absorbs moisture from the atmosphere. Liquid sodium hydroxide is a solution of anhydrous sodium hydroxide and water.

Part 2.3 Chemical Requirements

Liquid sodium hydroxide supplied under this specification shall contain approximately 50 percent sodium hydroxide (NaOH).

Part 2.4 Impurities

The sodium hydroxide provided under this specification shall contain no soluble or insoluble material, either organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with the sodium hydroxide.

The sodium hydroxide supplied under this specification shall be diaphragm or membrane grade.

This material shall be certified as suitable for contact with or treatment of drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 60, Drinking Water Treatment Chemicals – Health Effects.

The manufacturer or supplier shall furnish a certificate of analysis that includes but is

not limited to the following parameters: sodium hydroxide, sodium oxide, sodium chloride, sodium carbonate, sodium chlorate, sodium sulfate, aluminum, silicon, calcium, magnesium, iron, manganese, lead, mercury, arsenic, potassium, bromide, bromate.

PART 3: Delivery

Part 3.1 Marking

Each shipment of material shall carry with it some means of identification. Accompanying each shipment shall be documentation showing the net weight, the name of the manufacturer, the brand name (if any) and other information as required by applicable laws and regulations.

Part 3.2 Shipping

Liquid sodium hydroxide shall be delivered in properly cleaned self-unloading tank trucks. All bulk loads shall be accompanied by certified weight tickets. Size of load shall meet load limit restrictions. Plant facilities include two (2) 3250 gallon fiberglass reinforced plastic tanks with two inch fill lines.

PART 4: Verification

Part 4.1 Sampling

Samples shall be taken at the point of destination, in accordance with AWWA B501-19, section 5.1, unless the shipment is accompanied by a certified analysis from the manufacturer or vendor.

Part 4.2 Testing

All testing shall be done in accordance to the most current and applicable AWWA standard for sodium hydroxide (eg. B501-19 Section 5.2-5.5). The following is a partial list of chemical and physical characteristics that may be tested:

1. Alkali (Na_2O).
2. Hydroxide.
3. Sodium Carbonate

SECTION 4: BID FORM

All Bidders shall submit pricing in the format requested herein.

SODIUM HYDROXIDE 50% BULK	\$ <u>885.00*</u>	DRY TON
FREIGHT	\$ <u>Included</u>	TON
TOTAL DELIVERED COST	\$ <u>885.00*</u>	DRY TON

***Price is subject to change Quarterly after 6/30/22 upon 30 days written notice. Price changes will not be based upon an index as the Producers do not base their cost changes on index.**

The sodium hydroxide shall be either diaphragm or membrane grade.

INVOICE TERMS: Discount of % or \$ will be allowed for payment of invoice thirty (30) days from day of delivery and acceptance.

OTHER TERMS: Less than 30 days, E.O.M., Proximo, etc., will not be considered in determining award of contract.

Each bidder shall provide the City of Ann Arbor with a complete copy of the U.S. Department of Occupational Safety & Health Administration Safety Data Sheet (SDS) for each product bid.

Sodium Hydroxide shall be supplied to the City of Ann Arbor Water Treatment Plant, f.o.b. destination, freight prepaid. Selected bidder shall be responsible for transferring the product from transport vehicle to the City of Ann Arbor storage vessel. Bidder shall specify minimum shipping amount if any:

3,500 gallons minimum delivery

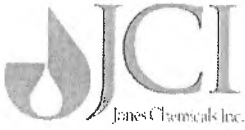
QUANTITY: The annual quantity is approximately **360 tons**. Current deliveries are 3800 gallons. These quantities are for estimating purposes only, not a guarantee of actual usage. Product will be ordered on an "as needed" basis. All prices are to remain firm.

MONITORING: The successful provider may provide telemetry device(s) for tank monitoring that provides data to the provider on tank level, so that ordering product is unnecessary and resupply is managed by the supplier according to the needs of the Water Treatment Plant. Telemetry device(s) will be at no cost to the City of Ann Arbor.

SPECIFICATIONS: Please include the typical specifications sheet for your product with your bid to demonstrate your product quality, especially pertaining to specifications outlined in section 2.

REFERENCES: Please list at least three (3) entities for which you have done similar work:

	<u>Organization</u>	<u>Address</u>	<u>Contact Person</u>	<u>Telephone</u>
1.	PLEASE SEE ATTACHED			
2.	_____			
3.	_____			



SODIUM HYDROXIDE REFERENCES

1. City of Flint
Scott Dungee- Supervisor
4500 N Dort Hwy, Flint MI 48505
(810) 787-4121

2. Genesee County
Steve Cross- Supervisor
4414 Stanley Rd, Columbiaville MI 48421
(810) 793-5123 x 4194

3. City of Port Huron
Diane Siefert- Supervisor
100 Merchant St, Port Huron MI 48060
(810) 984-9775

◊ MORE REFERENCES AVAILABLE UPON REQUEST ◊



BID ADDENDUM

JCI, having no control over disruptions in manufacturer supply of raw materials or the railroads, must respectfully insist on including the following Force Majeure clause as a term of our bid and any related contract that may be issued:

FORCE MAJURE: JCI Jones Chemicals shall not be responsible for damages or delays caused by Force Majeure nor other events beyond its control and which could not reasonably have been anticipated or prevented. For purposes of this Agreement, Force Majeure includes, but is not limited to, adverse weather conditions, floods, epidemics, war, riot, strikes, lockouts, and other industrial disturbances; unknown site conditions, accidents, sabotage, fire, and acts of God.

SECTION 5: PRICING

Supplier may revise the price semi-annually using the formula below, using the Producers Price Index (PPI) published by the U.S. Bureau of Labor Statistics (“BLS”). The choice of specific BLS Producers Price index or indices and the weighting given to a choice of multiple indices will be mutually agreed upon by the City and the Provider. Seasonally unadjusted indices will be used. The adjusted price will be in effect for six months only, at which time it will be adjusted again or revert to the bid price (base selling price).

Upon mutual agreement between the City and the vendor the pricing provided in this ITB may be extended for three (3) additional one (1) year periods not to exceed four (4) years in total. Any price adjustments in shall be tied to the producer price index for basic chemical manufacturing (PPI code 3251) and renewals will be evaluated if they are in the best interest of the City.

- The Supplier should include in their bid an appropriate index or indices and the weighting to be applied to each. The Supplier should include the Series ID number with their bid and include their proposed revision formula.
- The Supplier will adjust the price semiannually, on January 20 and July 20 (if the renewal extensions are exercised or the contract is multiyear). The bid price (base selling price) must be in effect for at least 6 months before the first price adjustment.
- The Base Selling Price will be the amount bid by the Supplier.
- The Base Period Factor, denoted with a subscripted zero (in the example: E₀ and D₀), shall consist of an average of the most recent finalized indices for a period of one year, immediately preceding the date of the approved City Council resolution for the product being purchased, for that particular representative index. For monthly published indices this will be the arithmetic average of the twelve most recently published finalized indices. For quarterly published indices this will be the arithmetic average of the four most recently published finalized indices.
- The Adjustment Factor, denoted with no subscript (in the example: E and D), shall be based upon an average of the six most recently published monthly indices, (or three most recently published quarterly indices) at the time of the revision, for that particular index. For timeliness, if any monthly or quarterly index is still preliminary (designated with a P in the published numbers) at the time of the revision, it will be used in its preliminary state.
- Should the index referenced cease to be published or is published in an alternate form (different Series Number, Base Date, or Period), a mutually agreed upon and similar index will be used for future adjustments.
- When Base Dates are revised by the BLS, rebasing shall be done as needed based upon the old and new reference base period.
- The US Bureau of Labor Statistics Producers Price indices can be found at www.bls.gov/ppi
- The Revision Formula is: $P = P_0[r/100(X/X_0) + s/100(Y/Y_0) + t/100(Z/Z_0) + \dots]$
Where
- P₀ = Base Selling Price or original bid price as per the Bid Documents.
- P = Revised product price for the new future six month period. X₀ = Base Period Factor for a selected index.
X = Adjustment Factor for the same index.
r + s + t + ... = 100 = weighted proportion of selected index in revision formula

Following is an example of a revision formula. The parameters are defined below.

$$P = P_0 \times [0.70 (E/E_0) + 0.30 (D/D_0)]$$

Product Price

P_0 = Base Selling Price or original bid price as per the Bid Documents
 P = Revised product price for the new future six month period.

Electric Power

E_0 = Base Period Factor for Electric Power Distribution – East North Central
 E = Adjustment Factor for Electric Power Distribution – East North Central PPI
Monthly Index - Series ID: PCU221122221122433, Not Seasonally Adjusted,
Base Date: 9012

Diesel

D_0 = Base Period Factor for #2 Diesel Fuel
 D = Adjustment Factor for #2 Diesel Fuel PPI Monthly Index - Series ID: WPU057303,
Not Seasonally Adjusted, Base Date: 8200

City of Ann Arbor: General Terms and Conditions

The following General Terms and Conditions shall apply.

Tax Exemption: The City of Ann Arbor is tax exempt, ID# 38-6004534.

Acceptance of Contract: This order is the City's contract to purchase the goods and services described on the reverse front side of this document from the Vendor. The City's placement of this order is expressly conditioned upon the Vendor's acceptance of all the terms and conditions of purchase contained on or attached to this purchase order. All specifications, drawings, and data submitted to the Vendor with this order are hereby incorporated and made part hereof.

Amendments: No agreement or understanding to modify this contract shall be binding upon the City unless in writing and signed by the City's authorized agent.

Delivery: All prices must be F.O.B. delivery point. Time is of the essence on this contract. If delivery dates cannot be met, the Vendor agrees to advise the City, in writing of the earliest possible shipping date. The City reserves the right to cancel or purchase elsewhere and hold the Vendor accountable.

Risk of Loss: Regardless of F.O.B. point, the Vendor agrees to bear all risk of loss, injury, or destruction of goods and materials ordered herein which may for any reason occur prior to delivery or acceptance by the City, whichever is later. No such loss, injury, or destruction shall release the Vendor from any obligations hereunder.

Inspection: Goods and materials must be properly packaged. Damaged goods and materials will not be accepted. The City reserves the right to inspect the goods at a reasonable time subsequent to delivery where circumstances or conditions prevent effective inspection of the goods at the time of delivery. All rejected goods shall be returned to the Vendor at no cost to the City, whether the damage is readily apparent at the time of delivery or later. The City's acceptance is conditioned on such inspection.

Patents and Copyrights: If an article sold and delivered to the City hereunder shall be protected by any applicable patent or copyright, the Vendor agrees to indemnify and save harmless the City, from and against any and all suits, claims, judgments, and costs instituted or recovered against it by any person whomsoever on account of the use or sale of such articles by the City in violation or right under such patent or copyright.

Uniform Commercial Code: All applicable portions of the Michigan Uniform Commercial Code shall govern contracts for goods with the City of Ann Arbor; except as modified by contract documents.

Non-waiver of Rights: No failure of either party to exercise any power given to it hereunder or to insist upon strict compliance by the other party with its obligations hereunder, and no custom or practice of the parties at variance with the terms hereof, nor any payment under this agreement shall constitute a waiver of either party's right to demand exact compliance with the terms hereof.

Material Safety Data Sheets: Applicable Material Safety Data Sheets, in compliance with OSHA/MIOSHA hazard communication regulations/standards, must be provided by the Vendor to the City at the time of purchase.

Assignments: The Vendor agrees not to assign or transfer this contract or any part thereof without the written consent of the City of Ann Arbor, acting through its authorized representative. Any unauthorized assignment may subject the contractor to immediate termination.

Laws Governing, Severability: This contract shall be governed by and construed according to the laws of the State of Michigan. Vendor agrees to submit to the jurisdiction and venue of the Circuit Court of Washtenaw County, MI, or if original jurisdiction is established, the U.S. District Ct. for Eastern District of MI, Southern Division. The Vendor stipulates venues referenced are convenient and waives any claim of non-convenience. If any term herein is found to be ineffective, unenforceable or illegal under any present or future laws, such term shall be fully severable, and the remaining terms shall not be affected and shall remain full force and effect.

Prevailing Wage: It shall be the responsibility of the Vendor to comply, when applicable, with the prevailing wage requirements and/or the Davis-Bacon Act as amended.

Living Wage: It shall be the responsibility of the Vendor to comply, when applicable, with the City of Ann Arbor's Living Wage Ordinance as defined in Chapter 23, Section 1:811-1:821.

Non-Discrimination: It shall be the responsibility of the Vendor to comply, when applicable, with, all State, Federal and Local non-discrimination laws, including MCL 37.2209 and Section 9:158 of the City Code.

Indemnification: To the fullest extent permitted by law the Vendor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result from any act or omission, associated with the performance of this contract by the Vendor or anyone acting on the Vendor's behalf under this contract. The Vendor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. This indemnity survives delivery and acceptance of the Vendor's goods and services.

Warranty: The Vendor warrants to the City that all goods and services furnished hereunder will conform in all respects to the terms of this contract, including any drawings, specifications and standards incorporated herein. In addition, the Vendor warrants the goods and services are suitable for and will perform in accordance with the purposes for which they were intended.

Payment Terms: The City of Ann Arbor's payment terms are net 30. The payment date will be calculated based on the invoice receipt date or delivery date, whichever is later.

Payments: All invoices for goods and services shall be emailed to accountspayable@a2gov.org. Mailed invoices shall be addressed to the City of Ann Arbor, Accounts Payable, P.O. Box 8647, Ann Arbor, MI 48107, as indicated on the front of this purchase order. Invoices must include the Vendor's name, phone number, and clearly listed item descriptions, quantities and units of measure. The Vendor acknowledges and understands that invoices not addressed as stated above shall have the net 30 begin once the invoice is received by Accounts Payable.

Compliance with Laws: The Vendor certifies that in performing this contract it will comply with all applicable provisions of Federal, State and Local laws, regulations, rules and orders.

Termination for Cause: In the event the Vendor fails, at any time, to comply with, fully perform or strictly adhere to any covenant, condition or representation contained within the contract, the City shall have the right to give written notice to Vendor of such failure. If such failure is not cured to the City's satisfaction within ten (10) business days from the time of delivery to Vendor of such notice, the City shall have the right to terminate immediately without the requirement of a further notice.



Vendor Conflict of Interest Disclosure Form

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee
	<input type="checkbox"/> Interest in vendor's company
	<input type="checkbox"/> Other (please describe in box below)

*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:		
JCI Jones Chemicals, Inc.	(941) 330-1537	
Vendor Name	Vendor Phone Number	
	4/29/22	Summer Mello
Signature of Vendor Authorized Representative	Date	Printed Name of Vendor Authorized Representative

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, procurement@a2gov.org

**CITY OF ANN ARBOR
DECLARATION OF COMPLIANCE**

Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.
- (b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

JCI Jones Chemicals, Inc.

Company Name

4/29/22

Signature of Authorized Representative

Date

Summer Mello - Nat'l Sales Admin

Print Name and Title

1765 Ringling Blvd, Sarasota FL 34236

Address, City, State, Zip

(941) 330-1537 summer@jcichem.com

Phone/Email Address

Questions about the Notice or the City Administrative Policy, Please contact:
Procurement Office of the City of Ann Arbor
(734) 794-6500

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.
You can review the entire ordinance at www.a2gov.org/humanrights.

Intent: It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

Discriminatory Employment Practices: No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

Discriminatory Effects: No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

Nondiscrimination by City Contractors: All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

Complaint Procedure: If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at www.a2gov.org/humanrights. Then submit it to the Human Rights Commission by e-mail (hrc@a2gov.org), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at hrc@a2gov.org.

Private Actions For Damages or Injunctive Relief: To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

ADDENDUM No. 1

ITB No. 4718

Water Treatment Chemical – Sodium Hydroxide (NaOH)

Bids Due: May 4, 2022 at 10:00 A.M. (Local Time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes 1 page.**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on the Invitation to Bid Form (in Invitation to Bid document). Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.

The following forms provided within the ITB document should be included in submitted bids:

- Vendor Conflict of Interest Disclosure Form
- City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

I. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Bidders are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: How many tons or dry tons were ordered or used in the past 12 months? CY 2021 would also be fine if that is easier for you to report.

Answer 1: The annual quantity is approximately 360 tons.

Question 2: Regarding current delivery amount of 3,800 gallons- a full truck load for us ranges from 3,500-3,800 gallons- will that be acceptable?

Answer 2: Yes, that is acceptable

Question 3: What is the current price paid?

Answer 3: \$748/ton

Question 4: Please confirm that it is optional for the winning bidder to provide telemetry monitoring.

Answer 4: Yes

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.



**JCI Jones Chemicals, Inc.
Consent to Shareholder Action**

January 14, 2022

I, the undersigned shareholder, being the holder of all shares of stock of the above company now outstanding, hereby resolve as follows:

1. **Summer Mello**, National Sales Coordinator
2. **Susan Jones**, Chief Administrative Officer

are hereby authorized to submit and sign bids, contracts and other documents pertaining thereto of this Corporation, to municipalities and other for the sale of company products.

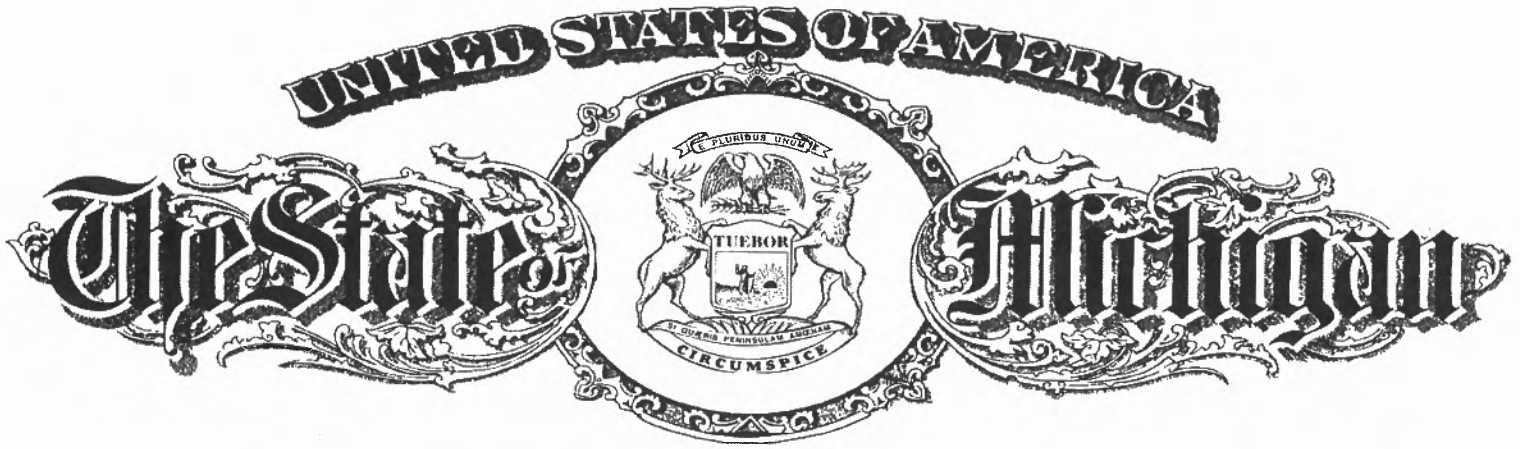
A handwritten signature in black ink, appearing to read 'Jeffrey W. Jones', written over a horizontal line.

Jeffrey W. Jones, C.E.O. & President

Attest:

A handwritten signature in black ink, appearing to read 'Ryan Jones', written over a horizontal line.

Ryan Jones, Vice President of Operations



Department of Licensing and Regulatory Affairs
Lansing, Michigan

This is to Certify That

JCI JONES CHEMICALS, INC.

*a(n) New York FOREIGN PROFIT CORPORATION,
was validly authorized on June 18 , 1993 to transact business in Michigan, and that said corporation
holds a valid certificate of authority to transact business in this state.*

*This certificate is issued pursuant to the provisions of 1972 PA 284 to attest to the fact that the corporation is
in good standing in Michigan as of this date and is duly authorized to transact in this state any business set
forth in its application which a domestic corporation formed under this act may lawfully conduct.*

*This certificate is in due form, made by me as the proper officer, and is entitled to have full faith and credit
given it in every court and office within the United States.*



Sent by electronic transmission

Certificate Number: 22010701003

*In testimony whereof, I have hereunto set my hand,
in the City of Lansing, this 31st day of January , 2022.*

Linda Clegg, Director

Corporations, Securities & Commercial Licensing Bureau



Payment Instructions: ACH and Wire

BANK: PNC Bank
Two Tower Center Blvd
East Brunswick, NJ 08816
Theresa Marich: (732) 220-3592

BENEFICIARY: JCI Jones Chemicals, Inc.

ACCOUNT #: 1271042493

ACCOUNT TYPE: Checking

ACH ROUTING #: 267084199

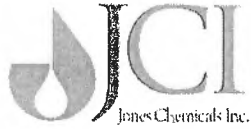
WIRE ROUTING #: 043000096

Please email payment remittance advice to ar@jcichem.com.

Should you have any questions please contact our Accounts Receivable department using the email address above should you have any questions.

Thank you!

JCI Jones Chemicals, Inc



AFFIDAVIT OF COMPLIANCE

SODIUM HYDROXIDE (CAUSTIC SODA)

JCI Jones Chemicals, Inc. hereby guarantees that the sodium hydroxide (caustic soda) comprising each shipment or other delivery made to the buyer complies with all applicable requirements of the AWWA Standard Sodium Hydroxide, AWWA B501-19.

We believe the above certification holds true until such a time as the AWWA Standard for Sodium Hydroxide is amended or the above certification is revoked in writing.

In addition, this product is certified under the ANSI/NSF Standard 60.

Very truly yours,

Summer Mello

Summer Mello
National Sales Administrator
JCI Jones Chemicals, Inc
1765 Ringling Blvd
Sarasota, FL 34236
(941) 330-1537

CERTIFICATE OF COMPLIANCE

Certificate Number 20140416-MH18026
Report Reference MH18026-20020830
Issue Date 2014-APRIL-16

Issued to: JCI JONES CHEMICALS INC
1765 RINGLING BLVD
SARASOTA FL 34236



This is to certify that representative samples of DRINKING WATER TREATMENT CHEMICALS
Sodium Hydroxide 50%, Sodium Hydroxide 49%-26%,
Sodium Hydroxide 25%-15%, Sodium Hydroxide 14%-5%.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: NSF/ANSI 60 - Drinking Water Treatment Chemicals - Health Effects

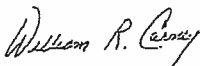
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Classification Mark for the U.S. and Canada should be considered as being covered by UL's Classification and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Classification Mark includes: the UL in a circle symbol:  with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and the product category name (product identity) as indicated in the appropriate UL Directory. The UL Classification Mark for Canada includes: the UL Classification Mark for Canada:  with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and the product category name (product identity) in English, French, or English/French as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product.

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.



William R. Casey, Director, North American Certification Programs
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at www.ul.com/customer-service



JCI JONES CHEMICALS, INC.
Product Specification
Sodium Hydroxide, 50%

		<u>SPECIFICATION</u>
Sodium Hydroxide (Equiv.)	NaOH	48.5 - 52.0% wt.
Sodium Oxide (Equiv.)	Na ₂ O	37.6 - 40.3% wt.
Specific Gravity @ 60°F (15.6°C)		1.517 - 1.553
Sodium Carbonate	Na ₂ CO ₃	0.30% max.
Sodium Chloride	NaCl	1.30% max.
Sodium Sulfate	Na ₂ SO ₄	0.20% max.
Sodium Chlorate	NaClO ₃	0.50% max.

Inorganic Salts

Silicon	Si	100 ppm max.
Iron	Fe	10.0 ppm max.
Manganese	Mn	1.0 ppm max.
Copper	Cu	2.0 ppm max.
Nickel	Ni	3.0 ppm max.

NOTE: Always read and follow the product label and Safety Data Sheet (SDS).

Description

This product is a water solution of sodium hydroxide. Ingredients include water, caustic soda and trace metallic and inorganic salt compounds. Inorganic salt and sodium compound data are representative of 50% sodium hydroxide.

This specification is based on mathematical calculation and supplier information. JCI Jones Chemicals, Inc. does not make any expressed or implied warranty that all future production will demonstrate or continue to possess these properties.



SAFETY DATA SHEET



RESPONSIBLE CARE[®]
OUR COMMITMENT TO SUSTAINABILITY

1. Identification

Product identifier	Sodium Hydroxide Solution 30 - 54%
Other means of identification	
SDS number	14010000
Synonyms	Caustic Soda, Caustic, Caustic Soda Solution, Sodium Hydroxide, Caustic Alkali, Lye, Caustic Lye.
Recommended use	Neutralization of acids, pH control, gas scrubbing, catalyst. Used in manufacture of pulp and paper, petroleum and natural gas, soap and detergents, and cellulose. Also used in water treatment, food processing, mining, and metal processing.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Company name	JCI Jones Chemicals, Inc.
Address	1765 Ringling Boulevard Sarasota, FL 34236
General Information	
Telephone	(800) 477-1078
Website	www.jcichem.com
Emergency phone number	CHEMTREC US: 1-800-424-9300 Canada: 1-800-567-7455

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger	
Hazard statement	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage.	
Precautionary statement		
Prevention	Keep only in original container. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Do not breathe the mist or vapor. Wash thoroughly after handling.	
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor/. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.	
Storage	Store locked up.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	Not classified.	
Environmental hazards	Hazardous to the aquatic environment, acute hazard.	Category 3

Supplemental information**Hazard statement**

Harmful to aquatic life.

Precautionary statement**Prevention**

Avoid release to the environment.

3. Composition/information on ingredients**Mixtures**

Chemical name	CAS number	%
Sodium hydroxide	1310-73-2	30 - 54

4. First-aid measures**Inhalation**

Move to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Skin contact

Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention immediately! Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Do not induce vomiting. Immediately rinse mouth and drink plenty of water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to an unconscious person. Do not use mouth-to-mouth method if victim ingested the substance.

Most important symptoms/effects, acute and delayed

Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Shortness of breath.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Keep victim under observation.

General information

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures**Suitable extinguishing media**

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Use extinguishing agent suitable for type of surrounding fire.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire. Do not use halogenated extinguishing agents.

Specific hazards arising from the chemical

The product itself does not burn. May decompose upon heating to produce corrosive and/or toxic fumes. Contact with metal may release flammable hydrogen gas.

Special protective equipment and precautions for firefighters

Fire fighters should enter the area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surface should be exposed.

Fire-fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Following product recovery, flush area with water.

Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Use caution when combining with water; DO NOT add water to caustic; ALWAYS add caustic to water while stirring to minimize heat generation. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store in corrosive resistant container with a resistant inner liner. Store away from incompatible materials (See Section 10). Store at temperatures not exceeding 40°C/104°F. Compatible storage materials may include, but not be limited to, the following: nickel and nickel alloys, steel, plastics, plastic or rubber-lined steel, FRP, or Derakane vinyl ester resin. Do not allow material to freeze.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear chemical goggles and face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Viscous liquid.

Color

Clear.

Odor

Odorless.

Odor threshold

Not available.

pH

14

Melting point/freezing point

50 - 53 °F (10 - 11.67 °C) (50% solution)

Initial boiling point and boiling range

266 - 284 °F (130 - 140 °C) (50% solution)

Flash point

Not available.

Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	23.76 mm Hg (approximately) (77 °F (25 °C))
Vapor density	Not available.
Relative density	1.525 (50% solution)
Relative density temperature	68 °F (20 °C)
Solubility(ies)	Completely miscible with water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Molecular formula	NaOH
Molecular weight	40.1 g/mol

10. Stability and reactivity

Reactivity	Contact with metal may release flammable hydrogen gas.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Corrosive to aluminum, tin, zinc, copper and most alloys in which they are present including brass and bronze. Corrosive to steels at elevated temperatures above 40°C (104°F).
Incompatible materials	Oxidizing agents. Acids. Phosphorus. Aluminum. Zinc. Tin. Initiates or catalyzes violent polymerization of acetaldehyde, acrolein or acrylonitrile.
Hazardous decomposition products	Contact with metals (aluminum, zinc, tin) and sodium tetrahydroborate liberates hydrogen gas.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Causes digestive tract burns. Harmful if swallowed.
Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes severe eye burns. Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
Sodium Hydroxide Solution 30 - 54%		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2 g/kg
<i>Oral</i>		
LD50	Rat	300 - 500 mg/kg

Product	Species	Test Results
<i>Other</i> LD50	Mouse	40 mg/kg, Intraperitoneal
Skin corrosion/irritation	Causes severe skin burns and eye damage. Standard Draize Test: 500 mg/24 hour(s) skin - rabbit severe.	
Serious eye damage/eye irritation	Causes severe eye burns. Causes serious eye damage. Standard Draize Test: 400 µg eyes - rabbit mild; 1 percent eyes - rabbit severe.	
Respiratory sensitization	No data available.	
Skin sensitization	No data available.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
Reproductive toxicity	No data available.	
Specific target organ toxicity - single exposure	Not available.	
Specific target organ toxicity - repeated exposure	Not available.	
Aspiration hazard	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.	
Chronic effects	Prolonged exposure may cause chronic effects.	

12. Ecological information

Product	Species	Test Results
Ecotoxicity Harmful to aquatic life.		
Sodium Hydroxide Solution 30 - 54%		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 99 mg/l, 48 hours Mosquitofish (<i>Gambusia affinis affinis</i>) 125 mg/l, 96 hours
Persistence and degradability	Expected to degrade rapidly in air.	
Bioaccumulative potential	The product is not expected to bioaccumulate.	
Mobility in soil	Not available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	8
Subsidiary class(es)	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB2, N34, T7, TP2

Packaging exceptions 154
Packaging non bulk 202
Packaging bulk 242

IATA

UN number UN1824
UN proper shipping name Sodium hydroxide solution
Transport hazard class(es) 8
Subsidiary class(es) -
Packaging group II
Environmental hazards No
Labels required 8
ERG Code 8L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1824
UN proper shipping name SODIUM HYDROXIDE SOLUTION
Transport hazard class(es) 8
Subsidiary class(es) -
Packaging group II
Environmental hazards
Marine pollutant No
Labels required 8
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - Yes

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

Sodium Hydroxide Solution 30 - 54%

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US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Sodium hydroxide (CAS 1310-73-2)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

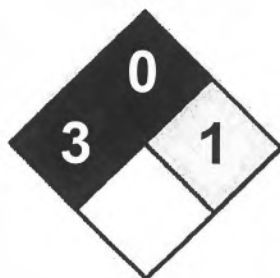
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 3-March-2015

Revision date -

Version # 01

NFPA Ratings

List of abbreviations
 LD50: Lethal Dose, 50%.
 LC50: Lethal Concentration, 50%.
 EC50: Effective concentration, 50%.
 TWA: Time weighted average.

References
 EPA: AQUIRE database
 HSDB® - Hazardous Substances Data Bank
 US. IARC Monographs on Occupational Exposures to Chemical Agents
 IARC Monographs. Overall Evaluation of Carcinogenicity
 ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
 Olin Chlor Alkali Products Safety Data Sheet

Disclaimer
 This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.